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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,044	10/28/2003	Mu-Hyun Kim	1514.1034	3882
49455	7590	06/05/2007		
STEIN, MCEWEN & BUI, LLP 1400 EYE STREET, NW SUITE 300 WASHINGTON, DC 20005			EXAMINER GARRETT, DAWN L	
			ART UNIT 1774	PAPER NUMBER
			MAIL DATE 06/05/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/694,044

**Applicant(s)**

KIM ET AL.

**Examiner**

Dawn Garrett

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-24 and 26-29 is/are pending in the application.
- 4a) Of the above claim(s) 12-23, 28 and 29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-11, 24, 26 and 27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 5-10-07.

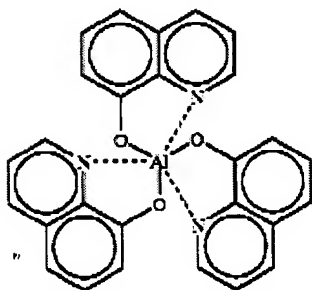
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

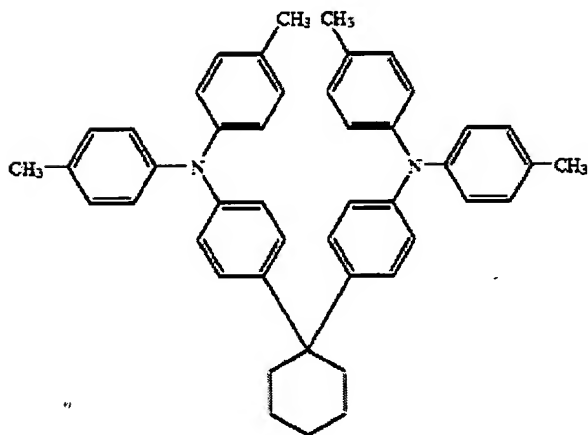
1. This Office action is responsive to the amendment filed March 20, 2007. Claim 18 was amended. Claims 1-3, 5-24, and 26-29 are pending. Claims 12-23, 28 and 29 are withdrawn as non-elected.
2. As stated in the previous Office action, the species under consideration are the following:

Formula I for the low molecular weight organic electroluminescent material (shown in claim 3)



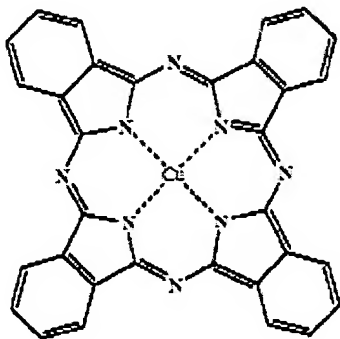
;

Formula 14 for the hole transmitting layer material (shown in claim 5)



;

Formula 19 for the hole injecting material (shown in claim 6)



1, 3,4 -oxadiazole derivative for the electron injecting layer material (shown in claim 7);  
and TAZ for the hole blocking material (claim 8).

3. The correction by amendment to withdrawn claim 20 is acknowledged.

***Claim Rejections - 35 USC § 102/103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-3, 5, 7-11, 24, and 26 are again rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kwon et al. (EP 0 851 714).

Kwon et al. disclose a donor film for an organic electroluminescence device comprising a base film (substrate film), a light-absorbing layer (photothermal conversion layer) and a transfer layer formed of a luminous material (see abstract). All of the adhesion properties set forth in claim 1 are considered to be inherent to the donor film. One purpose of a donor film is to adhere better to the substrate onto which it is transferred as compared to the substrate it is leaving. The process limitations in claim 1 are not significant, because the product, a donor film, is being claimed.

Kwon et al. discloses formula (1) for the transfer layer, which is identical to formula 1 of claim 3 with regard to the low molecular weight organic electroluminescent material (see page 4, lines 21-35). The transfer layer may further comprise hole transfer material and electron transfer

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material per claim 4 (see abstract). The hole transfer material may include formula (8), which is identical to Formula 14 of claim 5 (see page 6, lines 25-43). Kwon et al. further discloses 1, 3, 4-oxadiazole derivative as an electron transfer material per claim 7 (see page 6, lines 20-24). In addition, Kwon et al. discloses TAZ per claim 8 (see page 6, lines 20-24). The light absorbing layer (photothermal layer) is comprised of polymer containing carbon black, graphite or infrared absorbing dye (see page 4, lines 8-10) per claims 9 and 10. The base film (substrate film) is comprised of any transparent polymer including polyesters (see col. 4, lines 4-7). Kwon et al. further discloses a gas generating layer (see claim 15, page 18) with regard to claim 26. Kwon et al. is deemed to be sufficient to anticipate the claims; however, in the alternative that Kwon et al. is not considered to be sufficient to anticipate these claims and their recited properties, it would have been obvious to one of ordinary skill in the art at the time of the invention to have formed a device comprising all the recited components, because Kwon et al. teaches all the materials to form such a device.

While Kwon does not use the express language “hole blocking layer”, Kwon teaches a layer comprising preferred hole blocking layer material TAZ as set forth in dependent claim 8. Accordingly, the layer described as a “hole blocking layer” is the same as the layer comprising TAZ as disclosed by Kwon. The properties of the TAZ compound are inherent. Furthermore, electron transporting materials are known in the art as having a hole blocking function as evidenced by the discussion of electron transport materials and their hole blocking property in U.S. Patent No. 5,869,199 at col. 7, lines 38-52.

6. Claims 1-3, 6-9, 11, and 24 are again rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Akai (US 2003/0045021). Akai

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discloses transfer donor films for organic electroluminescent devices (see abstract and par. 82).

The donor film comprises a base film formed of a polymer such as PET (see par 84) and an organic film (see par. 87). The organic film (transfer layer) comprises multiple layers (see par. 87-89). One of those layers of the organic film may be a light emitting layer comprising Alq<sub>3</sub> per Formula 1 of claim 3 (see par. 93). A further layer may comprise the following materials:

CuPc (per claim 6), oxadiazole compounds (per claim 7), and triazole derivatives (per claim 8) (see par. 95 and 96). A light to heat conversion layer is formed on the base film per the

photothermal film (see par. 86). Akai is deemed to be sufficient to anticipate the claims;

however, in the alternative that Akai is not considered to be sufficient to anticipate these claims and their recited properties, it would have been obvious to one of ordinary skill in the art at the time of the invention to have formed a device comprising all the recited components, because Akai teaches all the materials to form such a device.

While Akai does not use the express term "hole blocking layer", Akai teaches a layer comprising preferred hole blocking layer materials as set forth by applicant in dependent claim 8 (i.e. triazole derivatives). The properties of the Akai compound and applicant's hole blocking compound are the same since they are the same materials. Furthermore, electron transporting materials are known in the art as having a hole blocking function as evidenced by the discussion of electron transport materials and their hole blocking property in U.S. Patent No. 5,869,199, at col. 7, lines 38-52.

7. Claim 27 is again rejected under 35 U.S.C. 103(a) as being unpatentable over Kwon et al. (EP 0 851 714) in view of Fujita et al. (US 2003/0008224). Kwon et al. is relied upon as set forth above. Kwon et al. discloses a gas generating layer (see claim 15, page 18) with regard to

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claim 26, but fails to set forth the specific gas-generating compounds of claim 27. Fujita et al. teaches in analogous art an exemplary gas-generating layer comprising either PETN or TNT (see par. 59). It would have been obvious to one of ordinary skill in the art at the time of the invention to have selected either PETN or TNT as a gas-generating material of the gas-producing layer of the donor film taught by Kwon, because Fujita et al. teach PETN or TNT as gas-generating material in the art.

### ***Response to Arguments***

8. Applicant's arguments filed March 20, 2007 have been fully considered but they are not persuasive.

With regard to the rejections over Kwon, applicant again argues Kwon does not teach a hole blocking layer as required by independent claim 1 and claim 24. As previously stated in the prior response to arguments and the current rejections, while Kwon does not use the express language "hole blocking layer", Kwon teaches a layer comprising preferred hole blocking layer material TAZ as set forth in dependent claim 8. Accordingly, the layer described as a "hole blocking layer" is the same as the layer comprising TAZ as disclosed by Kwon. The properties of the TAZ compound are inherent. Furthermore, electron transporting materials are known in the art as having a hole blocking function as evidenced by the discussion of electron transport materials and their hole blocking property in U.S. Patent No. 5,869,199, col. 7, lines 38-52. It is noted that claim 24 does not expressly require each of an electron transporting layer, hole blocking layer and electron injection layer if the first electrode is an anode. Applicant states Kido teaches TAZ may be used in more than one layer and may have more than one property (see top of page 32 of arguments filed March 20, 2007). Even though TAZ may be used for

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other purposes, Kido does clearly teach TAZ is excellent in hole blocking (see col. 7, lines 38-52).

Similar to the arguments over Kwon, applicant also again argues Akai does not teach or suggest a hole blocking layer. As previously stated in the prior response to the arguments and the current rejections, while Akai does not use the express term “hole blocking layer”, Akai teaches a layer comprising preferred hole blocking layer materials as set forth by applicant in dependent claim 8 (i.e. triazole derivatives). The properties of the Akai compound and applicant’s hole blocking compound are the same since they are the same materials. Furthermore, electron transporting materials are known in the art as having a hole blocking function as evidenced by the discussion of electron transport materials and their hole blocking property in U.S. Patent No. 5,869,199, col. 7, lines 38-52.

With regard to the rejection of claim 27 over Kwon in view of Fujita et al. (US 2003/0008224), applicant again argues the secondary reference fails to recite a hole blocking layer and fails to cure the deficiencies of Kwon. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The secondary reference, Fujita, is relied upon to teach to teach the specific gas-generating compounds of claim 27. Fujita et al. teaches in analogous art an exemplary gas-generating layer comprising either PETN or TNT (see par. 59). It would have been obvious to one of ordinary skill in the art at the time of the invention to have selected either PETN or TNT



as a gas-generating material of the gas-producing layer of the donor film taught by Kwon, because Fujita et al. teach PETN or TNT as gas-generating material in the art.

***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

" A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. " Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (571) 272-1523. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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" Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Dawn Garrett  
Primary Examiner  
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